



Australian Government

AUMGTS001 Prepare materials for fabrication using jigs and fixtures

Release: 1

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Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTS3001 Prepare materials for fabrication using jigs and fixtures

Application

This unit describes the performance outcomes required to prepare materials according to drawing specifications and then use jigs and fixtures to fabricate components.

It applies to those in an automotive manufacturing environment and involves the application of skills and knowledge at a production worker level.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Competency Field

Manufacturing - Bus, Truck and Trailer

Unit Sector

Technical - Fabrication

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section
1. Plan and prepare	1.1 Hand tools, equipment and resources are selected and inspected, and faults are repaired or reported 1.2 Appropriate lifting equipment is selected and used according to workplace procedures 1.3 Work information and working drawings are identified and confirmed

Elements	Performance Criteria
2. Select and mark out materials	2.1 Work health and safety (WHS) requirements and workplace procedures are identified and followed 2.2 Materials are selected, marked out and prepared according to job specifications 2.3 Defective materials are set aside for scrap or rework
3. Load and unload materials onto jig or fixture	3.1 Material and parts are positioned and secured in jig to prevent movement 3.2 Materials and parts are loaded and unloaded into jig according to WHS requirements and workplace procedures
4. Fabricate parts	4.1 Materials are shaped to fit jig and checked against job specifications 4.2 Materials positioned in jig are bolted or welded according to job specification 4.3 Fabrication process is completed according to workplace procedures 4.4 Fabricated components are removed from jig and checked for compliance, and faulty components are returned for rework
5. Complete work processes	5.1 Work area, jigs, tools and equipment are cleaned, maintained and inspected according to workplace procedures 5.2 Faulty equipment is identified, tagged and reported 4.3 Work sheets and production schedule are completed and given to appropriate personnel

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	- interpret workplace procedures, WHS requirements, workplace quality standards, job instructions and working drawings - identify installation sequence.
Writing skills to:	- complete production schedule documentation - prepare work plan - complete machine maintenance forms - complete faulty equipment tags.
Numeracy skills to:	- count parts and components to be placed into jig - select and arrange correct size and amount of required fasteners

	• identify and adjust welder machine settings.
Planning and organising skills to:	• plan and assemble parts into jigs or fixtures • complete job to specification and timeline.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Resources</i> must include:	• jigs and fixtures • job specifications • lifting equipment • pre-formed parts • production materials and drawings • securing processes: • bolts • clamps • metal pins • work plans • workplace procedures.
<i>Workplace procedures</i> must include:	• procedures for recording and reporting the preparation of materials for fabrication using jigs and fixtures • use of tools and equipment for preparing materials for fabrication using jigs and fixtures • WHS requirements for preparing materials for fabrication using jigs and fixtures • workplace quality standards relevant to preparing materials for fabrication using jigs and fixtures.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

Assessment Requirements for AUMGTS001 Prepare materials for fabrication using jigs and fixtures

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Performance Evidence

Before competency can be determined, individuals must have competently prepared materials for fabrication using jigs and fixtures on a minimum of two occasions.

Individuals must demonstrate they can:

- identify and apply job information and specifications
- interpret drawings and material lists
- identify and select materials for fabrication according to job specifications
- fix materials in jig or fixture according to workplace procedures and work health and safety (WHS) requirements
- fabricate common automotive components using jigs and fixtures according to workplace procedures and WHS requirements
- maintain a clean and safe work area
- apply manual-handling techniques with jigs and fixtures, and their associated materials
- complete workplace documentation relating to preparing materials for fabrication using jigs and fixtures.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- WHS requirements relating to preparing materials for fabrication using jigs and fixtures
- methods of interpreting fabrication requirements from drawings and material lists
- procedures for preparing materials for fabrication using jigs and fixtures
- types of fabrication tools and equipment and their application and operation
- types and use of jigs and fixtures
- fabrication processes using jigs and fixtures of common automotive components
- common automotive manufacturing parts and assembly faults
- handling and storage procedures for automotive manufacturing materials.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the materials that they have prepared for fabrication using jigs and fixtures, e.g. fabrication work sheets.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive manufacturing workplace or simulated workplace
- working drawings relating to fabrication
- specifications of materials and components
- jigs and fixtures relevant to the material to be prepared
- tools and equipment relevant to preparing materials for fabrication using jigs and fixtures
- personal protective equipment (PPE) relevant to the jigs and fixtures in use
- lifting equipment relevant to the fabrication material.

Links

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